

WHAT IS CLAIMED IS:

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1. A liquid/crystal device having multiple pixels, the liquid crystal device comprising:

5 an input terminal that receives a display signal including multiple pixel signals to be supplied to the multiple pixels, the display signal having a predetermined signal embedded therein for generating a common signal, which is to be commonly supplied to the multiple pixels, during a predetermined period that does not include the pixel signals in the display
10 signal.

2. A liquid crystal device in accordance with claim 1, wherein the predetermined period is part of a horizontal scanning period except an effective horizontal scan period.
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3. A liquid crystal device in accordance with claim 1, wherein the predetermined period is part of a vertical scanning period except an effective vertical scan period.

20 4. A liquid crystal device in accordance with claim 1, the liquid crystal device further comprising:

a common signal line that is commonly connected to the multiple pixels; and

a common signal line driving circuit that generates the common
25 signal in response to the predetermined signal included in the display signal input from the input terminal and supplies the generated common signal to

the common signal line.

5 5. A liquid crystal device in accordance with claim 4, wherein the common signal line driving circuit is a sample/hold circuit that samples the predetermined signal included in the display signal input from the input terminal and outputs the predetermined sampled signal as the common signal.

10 6. A liquid crystal device in accordance with claim 5, the liquid crystal device further comprising:

multiple rows of scanning lines and multiple columns of signal lines for selecting the multiple pixels;

15 a scanning line driving circuit that supplies scanning signals to the corresponding multiple rows of scanning lines in a sequence of the multiple rows of scanning lines; and

a signal line driving circuit that samples display signals corresponding to the multiple columns of signal lines in a sequence of the multiple columns of signal lines and supplies the sampled display signals to the corresponding signal lines,

20 wherein the signal line driving circuit supplies a sample/hold signal, which is used for sampling the predetermined signal, to the common signal line driving circuit.

25 7. A liquid crystal device in accordance with claim 5, the liquid crystal device further comprising:

multiple rows of scanning lines and multiple columns of signal lines

for selecting the multiple pixels;

a scanning line driving circuit that supplies scanning signals to the corresponding multiple rows of scanning lines in a sequence of the multiple rows of scanning lines; and

5 a signal line driving circuit that samples display signals corresponding to the multiple columns of signal lines in a sequence of the multiple columns of signal lines and supplies the sampled display signals to the corresponding signal lines,

wherein the scanning line driving circuit supplies a sample/hold
10 signal, which is used for sampling the predetermined signal, to the common signal line driving circuit.

✓ 8. A liquid crystal device in accordance with claim 2, the liquid crystal device further comprising:

15 a common signal line that is commonly connected to the multiple pixels; and

a common signal line driving circuit that generates the common signal in response to the predetermined signal included in the display signal input from the input terminal and supplies the generated common signal to
20 the common signal line.

5 9. A liquid crystal device in accordance with claim 8, wherein the common signal line driving circuit is a sample/hold circuit that samples the predetermined signal included in the display signal input from the input
25 terminal and outputs the predetermined sampled signal as the common signal.

6 10. A liquid crystal device in accordance with claim 9, the liquid crystal device further comprising:

5 multiple rows of scanning lines and multiple columns of signal lines for selecting the multiple pixels;

a scanning line driving circuit that supplies scanning signals to the corresponding multiple rows of scanning lines in a sequence of the multiple rows of scanning lines; and

10 a signal line driving circuit that samples display signals corresponding to the multiple columns of signal lines in a sequence of the multiple columns of signal lines and supplies the sampled display signals to the corresponding signal lines,

15 wherein the signal line driving circuit supplies a sample/hold signal, which is used for sampling the predetermined signal, to the common signal line driving circuit.

11. A liquid crystal device in accordance with claim 9, the liquid crystal device further comprising:

20 multiple rows of scanning lines and multiple columns of signal lines for selecting the multiple pixels;

a scanning line driving circuit that supplies scanning signals to the corresponding multiple rows of scanning lines in a sequence of the multiple rows of scanning lines; and

25 a signal line driving circuit that samples display signals corresponding to the multiple columns of signal lines in a sequence of the multiple columns of signal lines and supplies the sampled display signals to

the corresponding signal lines,

7 wherein the scanning line driving circuit supplies a sample/hold signal, which is used for sampling the predetermined signal, to the common signal line driving circuit.

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12. A liquid crystal device in accordance with claim 3, the liquid crystal device further comprising:

4 a common signal line that is commonly connected to the multiple pixels; and

10 a common signal line driving circuit that generates the common signal in response to the predetermined signal included in the display signal input from the input terminal and supplies the generated common signal to the common signal line.

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13. A liquid crystal device in accordance with claim 12, wherein the common signal line driving circuit is a sample/hold circuit that samples the predetermined signal included in the display signal input from the input terminal and outputs the predetermined sampled signal as the common signal.

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6 14. A liquid crystal device in accordance with claim 13, the liquid crystal device further comprising:

multiple rows of scanning lines and multiple columns of signal lines for selecting the multiple pixels;

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a scanning line driving circuit that supplies scanning signals to the corresponding multiple rows of scanning lines in a sequence of the multiple

rows of scanning lines; and

a signal line driving circuit that samples display signals corresponding to the multiple columns of signal lines in a sequence of the multiple columns of signal lines and supplies the sampled display signals to the corresponding signal lines,

wherein the signal line driving circuit supplies a sample/hold signal, which is used for sampling the predetermined signal, to the common signal line driving circuit.

15. A liquid crystal device in accordance with claim 13, the liquid crystal device further comprising:

multiple rows of scanning lines and multiple columns of signal lines for selecting the multiple pixels;

a scanning line driving circuit that supplies scanning signals to the corresponding multiple rows of scanning lines in a sequence of the multiple rows of scanning lines; and

a signal line driving circuit that samples display signals corresponding to the multiple columns of signal lines in a sequence of the multiple columns of signal lines and supplies the sampled display signals to the corresponding signal lines,

wherein the scanning line driving circuit supplies a sample/hold signal, which is used for sampling the predetermined signal, to the common signal line driving circuit.

16. An image processing device that generates a display signal, which is to be input into a liquid crystal device having multiple pixels, the

image processing device comprising:

a video signal conversion circuit that converts an input video signal and generates multiple pixel signals, which are to be given to the multiple pixels of the liquid crystal device; and

5 a display signal generation circuit that combines the multiple pixel signals with a predetermined signal, which is used for generating a common signal to be commonly supplied to the multiple pixels, and thereby generates one display signal.

10 17. An image display apparatus, comprising:

a liquid crystal device having multiple pixels; and ✓

an image processing device that generates a display signal, which is to be input into the liquid crystal device, ✓

the liquid crystal device comprising:

15 an input terminal that receives the display signal including multiple pixel signals to be supplied to the multiple pixels, the display signal having a predetermined signal embedded therein for generating a common signal, which is to be commonly supplied to the multiple pixels, during a predetermined period that does not include the pixel signals in the display
20 signal,

the image processing device comprising:

a video signal conversion circuit that converts an input video signal and generates the multiple pixel signals, which are to be given to the multiple pixels of the liquid crystal device; and

25 a display signal generation circuit that combines the multiple pixel signals with a predetermined signal, which is used for generating a common

signal to be commonly supplied to the multiple pixels, and thereby generates one display signal.

18. An image display apparatus in accordance with claim 17,
5 wherein the image processing device further comprises:

an adjustment control circuit that adjusts a value of data included in the predetermined signal.

10 19. A method of inputting a predetermined signal into a liquid crystal device that has multiple pixels and receives a display signal including multiple pixel signals, which are to be given to the multiple pixels, the predetermined signal being used for generating a common signal to be commonly supplied to the multiple pixels,

the method comprising the step of:

15 embedding the predetermined signal into a predetermined period that does not include the pixel signals in the display signal and inputting the embedded predetermined signal as part of the display signal.

20 20. An image processing method that generates a display signal, which is to be input into a liquid crystal device having multiple pixels, the image processing method comprising the steps of:

converting an input video signal and generating multiple pixel signals, which are to be given to the multiple pixels of the liquid crystal device; and

25 combining the multiple pixel signals with a predetermined signal, which is used for generating a common signal to be commonly supplied to

the multiple pixels, and thereby generating one display signal.

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